National Institute of Environmental Health Sciences

An exploration of spatial patterns of seasonal diarrhoeal morbidity in Thailand

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Abstract:

Studies of temporal and spatial patterns of diarrhoeal disease can suggest putative aetiological agents and environmental or socioeconomic drivers. Here, the seasonal patterns of monthly acute diarrhoeal morbidity in Thailand, where diarrhoeal morbidity is increasing, are explored. Climatic data (2003-2006) and Thai Ministry of Health annual reports (2003-2009) were used to construct a spatially weighted panel regression model. Seasonal patterns of diarrhoeal disease were generally bimodal with aetiological agents peaking at different times of the year. There is a strong association between daily mean temperature and precipitation and the incidence of hospitalization due to acute diarrhoea in Thailand leading to a distinct spatial pattern in the seasonal pattern of diarrhoea. Model performance varied across the country in relation to per capita GDP and population density. While climatic factors are likely to drive the general pattern of diarrhoeal disease in Thailand, the seasonality of diarrhoeal disease is dampened in affluent urban populations.

Source: http://dx.doi.org/10.1017/s0950268811001919

Resource Description

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☑

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Fluctuations

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Thailand

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: Other Diarrheal Disease

Foodborne/Waterborne Disease (other): Typhoid; Dysentery

Population of Concern: A focus of content

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content